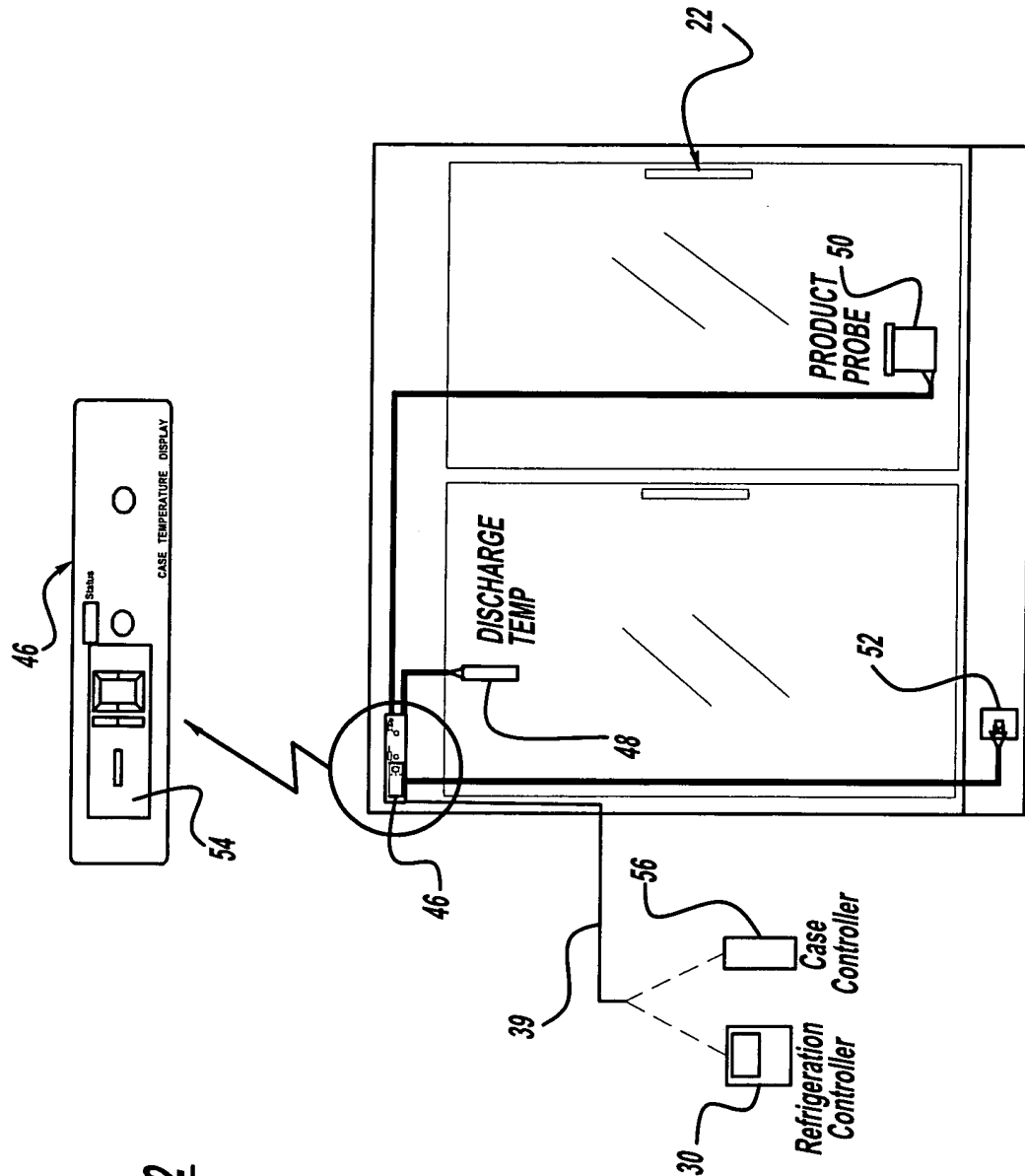


**Figure - 1**

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**Figure - 2**

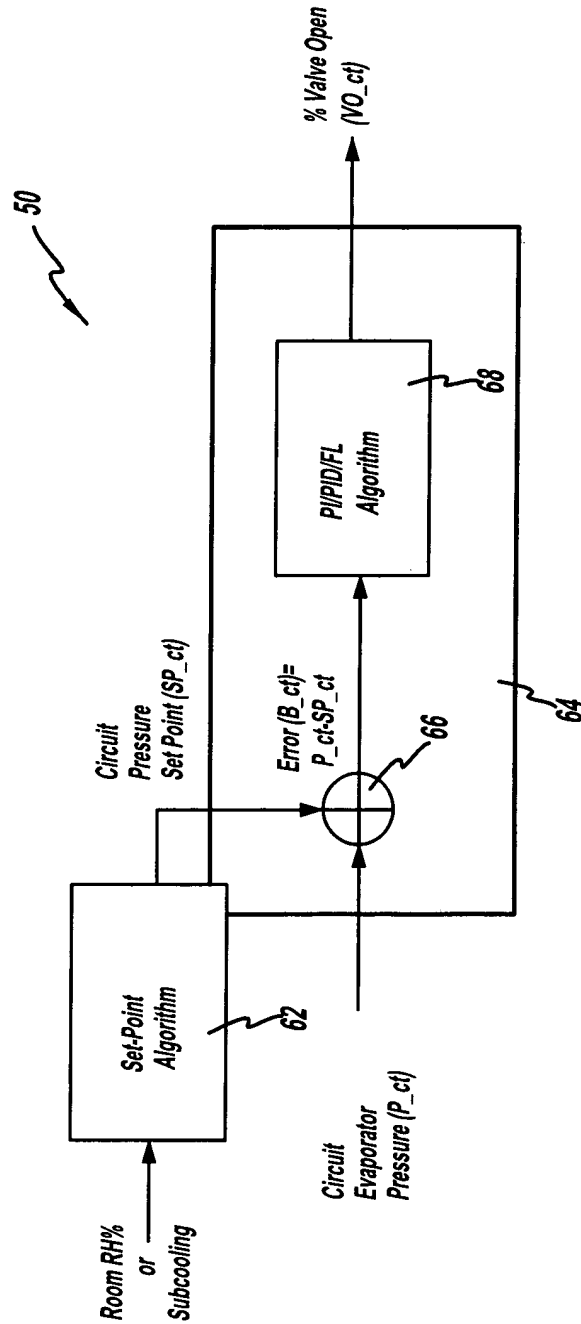


Figure - 3

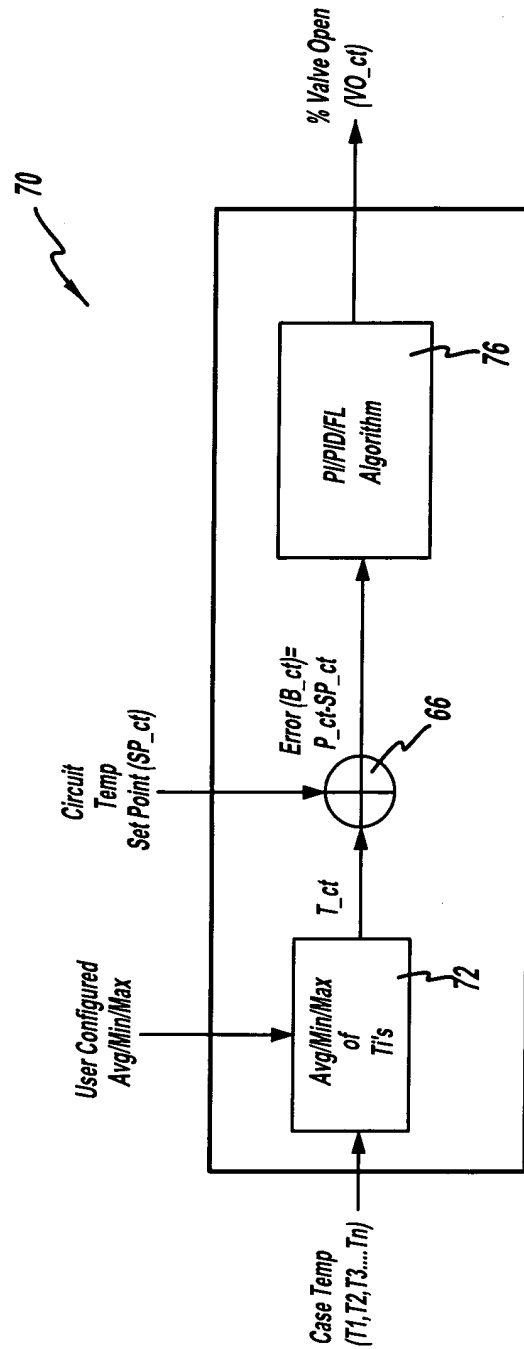


Figure - 4

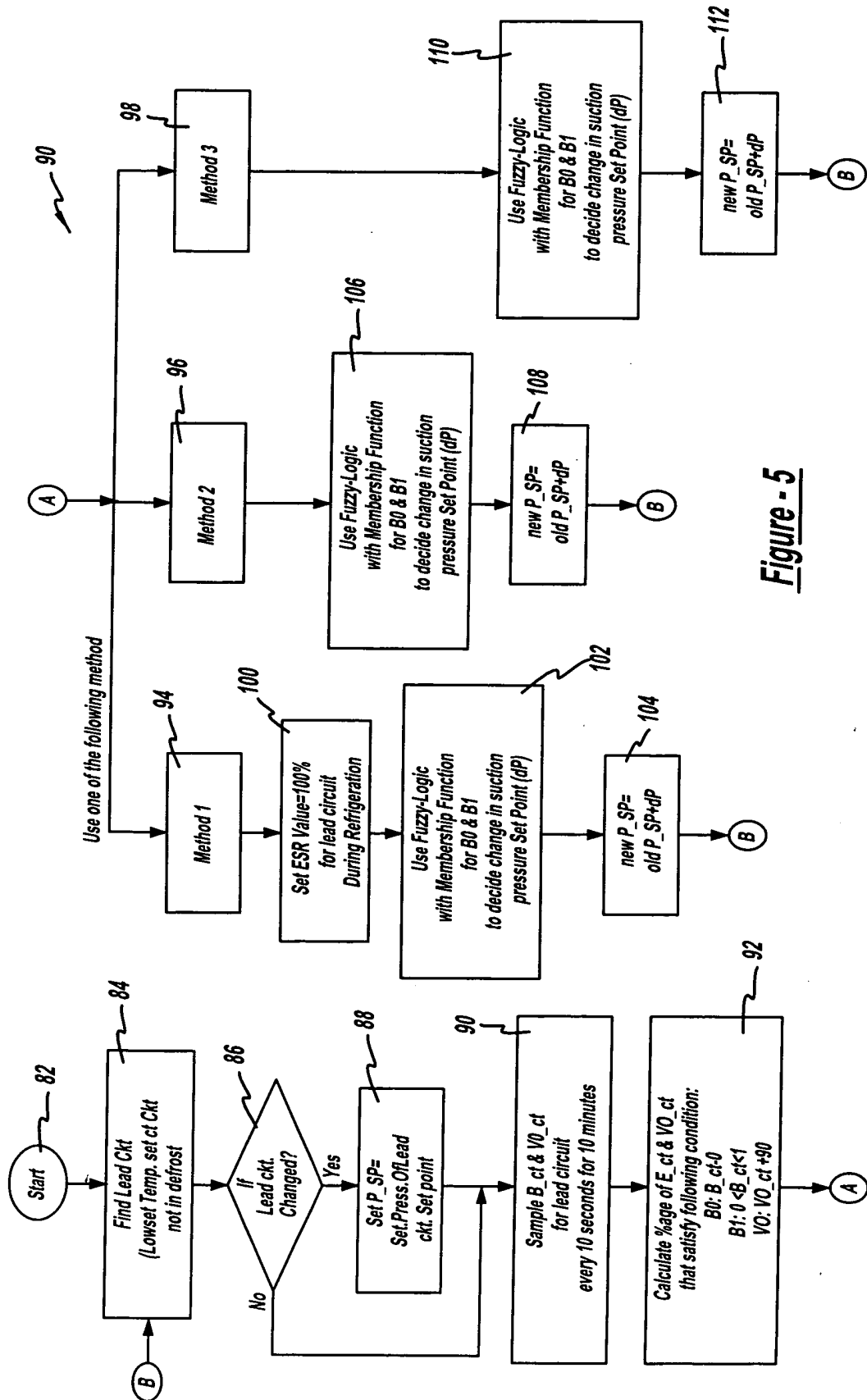
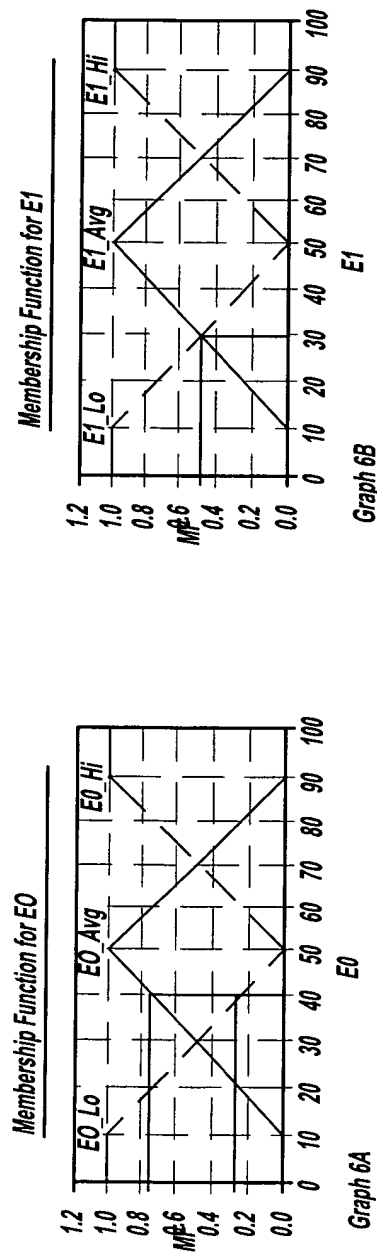


Figure - 5

Figure - 6



Note: E0 is the percentage of E<sub>ct</sub> that is less than zero in 10 minute duration  
E1 is the percentage of E<sub>ct</sub> that is between zero and 1 F in 10 minute duration

TRUTH TABLE 6C

E0(I)	E1(J)	1	2	3
1	Lo	NBC	NSC	NC
2	Avg.	PSC	PSC	PSC
3	Hi	PBC	PBC	PBC

Quantity Changed:

NBC: Negative Big Change=-2 Psi  
NSC: Negative Small Change=-1 Psi  
NC: No Change=0 Psi  
PSC: Positive Small Change=+1 Psi  
PBC: Positive Big Change=+2 Psi

Sample Calculation: For E0=40%; E1=30%

Step1: Fuzzification:

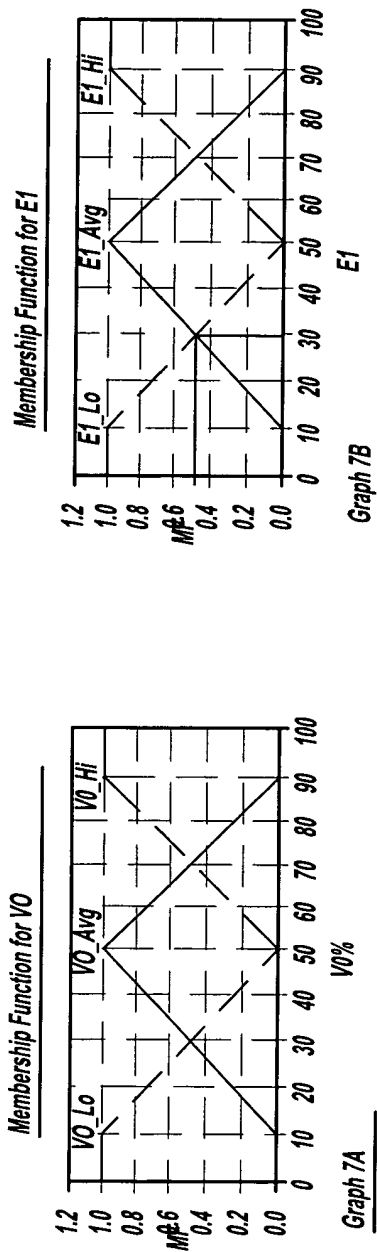
For E0=40% from Mem. Function Chart for E0 we get E0<sub>Lo</sub>=0.25; E0<sub>Avg</sub>=0.75  
For E1=30% from Mem. Function Chart for E1 we get E1<sub>Lo</sub>=0.5; E1<sub>Avg</sub>=0.5

Step2: MinMax: Refer to Truth Table

E0<sub>Lo</sub>=0.25 and E1<sub>Lo</sub>=0.5  $\Rightarrow$  NBC=Min(0.25,0.50)=0.25  
E0<sub>Lo</sub>=0.25 and E1<sub>Avg</sub>=0.5  $\Rightarrow$  NBC=Min(0.25,0.50)=0.25  
E0<sub>Avg</sub>=0.75 and E1<sub>Lo</sub>=0.5  $\Rightarrow$  PSC=Min(0.75,0.50)=0.50  
E0<sub>Avg</sub>=0.75 and E1<sub>Avg</sub>=0.5  $\Rightarrow$  PSC=Min(0.75,0.50)=0.50  
Now take maximum of common one that is PSC=0.50; NSC=0.25; NBC=0.25

Step3: Defuzzification Step:

Net Pressure set Point Change=+1\*PSC-2\*NBC/(PSC+NSC+NBC)  
 $=+1*0.50-2*0.25/(0.5+0.25+0.25)$   
 $=-0.25$



Note: VO is the percentage of V<sub>ct</sub> that is less than 90% valve opening in 10 minute duration  
E1 is the percentage of E<sub>ct</sub> that is between zero and 1 F in 10 minute duration

TRUTH TABLE 7C			
VO(I)	E1(J)		
	1	2	
1	Lo	Avg	Hi
2	PBC	PBC	PBC
3	PSC	PSC	PSC
	Hi	NSC	NC

Quantity Changed:

NBC: Negative Big Change=-2 Psi  
NSC: Negative Small Change=-1 Psi  
NC: No Change=0 Psi  
PSC: Positive Small Change=+1 Psi  
PBC: Positive Big Change=+2 Psi

Figure - 7

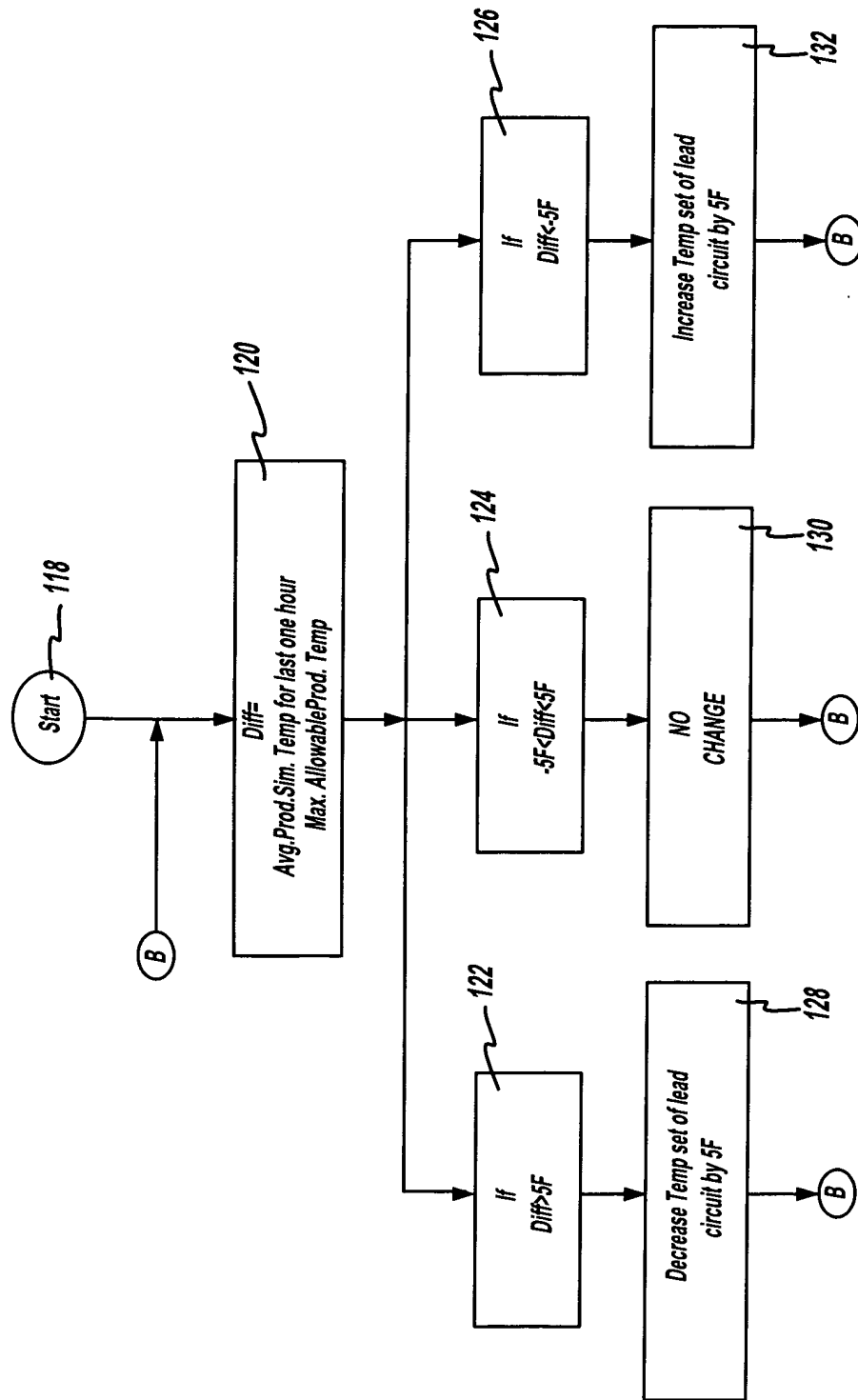


Figure - 8